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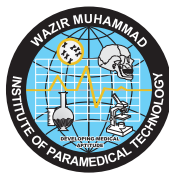
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REVIVAL OF CUTANEOUS LEISHMANIASIS IN SOUTHERN DISTRICTS OF KP PAKISTAN

Inayat ur Rehman

Dean

Wazir Muhammad Institute of Paramedical Technology, Peshawar

A neglected tropical disease “Leishmaniasis” is still a threat to people residing in the southern districts of KP. The protozoan parasite of the genus *Leishmania* is the causative agent which is transmitted by female sand fly. Sand flies become infected by sucking blood from an infected animal or person. People might not realize that sand flies are present because of smaller size, noiseless and painless bite. Sand flies usually are most active in twilight, evening, and night-time hours (from dusk to dawn).

There are three main forms of leishmaniasis; cutaneous leishmaniasis, visceral leishmaniasis and mucosal leishmaniasis. Of these, cutaneous leishmaniasis is the most common form. It affects the skin and mucous membranes. Clinical manifestations range from skin sores to systemic multiorgan disease. Cutaneous symptoms may appear a few weeks after being bitten by an infected sand fly. However, sometimes symptoms won't appear for months or years. The sores can change in size and appearance over time. The sores may start out as papules (bumps) or nodules (lumps) and may end up as ulcers (like a volcano, with a raised edge and central crater); skin ulcers might be covered by scab or crust. Tissue specimens [skin sores] can be examined for the parasite under a microscope, in special cultures, and by molecular tests.

The lack of information and facilities about the disease [diagnosis/treatment] lead to the spread of infection at an alarming rate in this region. Huge migration of people from boarder areas between Pakistan and Afghanistan due to terrorism and economic conditions contributed a lot to the spread of infection. According to recent reports, the prevalence of the disease is much higher in these areas compared to it prevalence in district Peshawar. This high prevalence is attributed to the close relationship of peoples with animals, frequent utilization of animal dungs and contaminated woods as a fuel and no use of disinfectants. The lack of a commercially available vaccines, the lack of access to therapy and limited local resources are among the main contributing factors for the spread of infection.

Public health activities including knowledge of infection and methods of control [limiting close contact with animals, wearing of full sleeves shirt & use of bed nets] can play a substantial role in controlling the spread of the disease. In general, prevention and control measures must be tailored to the local setting. Control measures against sand fly vectors or animal reservoir hosts might be an effective tool.

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IMPACT OF PARENTAL LITERACY ON DENTAL CARIES OF SCHOOL - GOING CHILDREN IN LANDI KOTAL DISTRICT KHYBER

Shafi Ullah¹, Muhammad Ahmad Orakzai²

ABSTRACT

OBJECTIVES

Education plays a profound role in lessening dental caries. This study assesses the impact of parental education on dental caries of school-going children.

METHODOLOGY

This was a cross-sectional study conducted on four hundred and fifteen (415) students of public and private schools. The study duration was six months. A simple random sampling technique was used. A semi-structured questionnaire was used as a data collection tool.

RESULTS

The children were questioned in designated and comfortable zones of schoolyards. The results depicted that children of educated parents had better dental hygiene and reduced dental caries whereas children of uneducated parents showed a remarkable increase in dental caries.

CONCLUSION

The study concludes that parental literacy influences and plays an important role in reducing the prevalence of dental caries in school-going children.

KEYWORDS: Dental Caries, Parental Literacy, Oral Health, School, Prevalence

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INTRODUCTION

Dental caries is one of the most common global diseases that can occur at any phase of life. A report by World Health Organization states that dental caries if not treated in time can gradually infect other teeth and can probably be a cause of tooth loss.² Dental caries besides, damaging the primary function of teeth-mastication can cause a severe blow to the speech, smile, and psychological and social environment of the children.³ Unprivileged socio-economic factors intensify dental caries.⁴ Parental literacy plays a crucial role in oral hygiene thereby minimizing the

chances of dental caries in children.⁵ It has been reportedly shown that parental literacy and family income have a direct and good impact on the oral health of children whereas low-income and uneducated parents are found to have no attention to the oral hygiene of their children, thus dental caries in such children persists.⁶ Parents with educational background and dental knowledge have a long-lasting positive effect on children's oral health whilst children having no such opportunity remains affected by dental caries. socioeconomic factors including education have a massive influence on caries as out of 231 children, 70.46% of those children had caries whose father and mother have lower educational level.⁷ 589 Saudi Arabian Children including males and females, ages 3 – 14, showed that 70% of children having a lower parental literacy rate are suffered from caries while in case of children having higher parental literacy are less susceptible to dental caries.⁸ the association of various socioeconomic

parental factors and dental caries in 3 years old 3615 Japanese children. the prevalence of dental caries was 14.7% in children having professional and educated parents. The higher the parental literacy the lower caries and vice versa.⁹ Similarly, the authors have shown that socioeconomic factors such as income, education level and family size have a direct impact on caries prevalence i.e., the lower the educational level of parents the higher will be the rate of caries in children.¹⁰ Moreover, in studies children of high-educated and high-income families have better oral health as compared to children lacking such facilities.¹¹ Children of less-educated fathers have more dental caries and DMFT scores.¹² Our research is also in line with the article of Diaz Cardenas et.al which states that educated mothers have a greater impact on a child's caries as compared to educated father.¹³ According to Chen, Liangwen et.al, children of educated parents tend towards more dental hygienic practices.¹⁴ There is an association between a mother's education and child caries. As the level of a mother's education increases so is the toothbrushing habit in children which leads to minimal or no caries. Katageri et.al performed an assessment on children of Udaipur, Rajasthan and concluded that the prevalence of caries has a higher ratio in children of uneducated parents.¹⁵

METHODOLOGY

This cross-sectional study was conducted on 415 children between the ages of 6 to 14, grades(1-8) from three public and three private schools of Landi Kotal after fulfilling all the ethical and legal formalities. A well-designed semi-structured questionnaire was used, and the students were questioned regarding dental health and parental literacy. The oral examination of students was carried out in their respective schools using a disposable mouth mirror, and dental explorer along with the necessary apparatus. Data collected were analyzed by SPSS version 26.

RESULTS

The data collected from the children of educated and uneducated parents revealed that the level of parental education influences the presence of caries in children, as the percentage of children of educated parents having minimal or, no caries was 72.4 as compared to children of uneducated parents. It was also noted that the children of educated parents have a very lower margin of missed teeth in contrast to the children of uneducated parents. The percentage of teeth-filling

children of educated parents was less compared to that of uneducated parents. Since educated parents do not encourage children to eat more sweets, therefore, it is clear from the table that the children of uneducated parents consume more sweets which then leads to dental caries. Children of educated parents practiced good dental hygiene. (56.9%) of the children of educated parents regularly used toothbrushes and toothpaste, while 34% used Miswak. Amongst the Children belonging to uneducated parents only 24% used toothbrushes or toothpaste, and the majority (56.8%) cleaned their teeth using their fingers only. Most Children belonging to uneducated parents complained of dental pain (78.4%). Fewer children of educated parents complained of dental pain.

Table 1: Comparative Analysis of Educated and Uneducated Parents Under Several Variables

Variables	Parental Literacy	
	Educated f(%)	Uneducated f(%)
Grade / Class		
Grade 1 to 4	65 (36.1) 72 (30.6)	115 (63.8) 163 (69.3)
Grade 5 to 8	65 (36.1) 72 (30.6)	115 (63.8) 163 (69.3)
Age		
6 to 10 years	65 (36.1)	115 (63.8)
11 to 14 years	72 (30.6)	163 (69.3)
Caries Status		
No Caries (Healthy)	100 (72.4)	59 (21.2)
Caries(Decayedteeth)	38 (27.5)	218 (78.7)
1 tooth	18 (47.3)	62 (28.4)
2 teeth	13 (34.2)	81 (37.1)
More than 2	7 (18.4)	75 (34.4)
Missed Teeth		
Yes	12 (8.7)	42 (15.1)
1 tooth	10 (83.3)	36 (85.7)
2 teeth	2 (16.6)	5 (11.9)
More than 2	0	1 (2.3)
No	125 (91.2)	236 (84.8)
Teeth Filling		
Yes	26 (18.9)	33 (11.8)
1 tooth	18 (69.2)	24 (72.7)
2 teeth	6 (23.0)	7 (21.2)
More than 2	2 (7.6)	2 (6.0)
No	111 (81.0)	245 (88.1)
Cleansing Method		
Toothpaste / brush	78 (56.9)	69 (24.8)
Finger	25 (18.2)	158 (56.8)
Miswak	34 (24.8)	51 (18.3)
Consumption of Sweet Foods		
Yes	129 (94.1)	263 (94.6)
Daily	25 (19.3)	196 (74.5)
After 2 – 3 days	78 (60.4)	48 (18.2)
Once a week	26 (20.1)	19 (7.2)
No	8 (5.8)	15 (5.3)
Dental Pain		
Yes	38 (27.7)	218 (78.4)
No	99 (72.2)	60 (21.5)

DISCUSSION

Oral health play's vital role in human life. The attitude of parents has a broad bond with the oral health of children^{16,17}. Poor oral health effect and deteriorates several spheres of life. The studies show that children with poor oral health more certainly experience dental pain, miss school, and perform insignificantly in school¹⁸. Poor oral health deprives children of food tastes and with more tooth loss their chewing power is also affected¹⁹. Briefly, Poor oral health results in various diseases including dental caries, gingivitis, periodontal diseases, bad breath, respiratory and cardiovascular diseases, and chronic kidney diseases. Education has an indispensable role in the elimination and reduction of caries particularly in children. Parents with a high level of education pay more attention to the dental hygiene of their children²⁰. Studies have discovered that more educated parents play a more positive role regarding the oral health of their children whereas less or uneducated parents do not take care of children's dentition / oral health²⁰. In this paper, we have analyzed the impact of parental literacy on dental caries of school-going children under several variables. In our results, the non-existence of dental caries in the children of educated parents was 72.4% while in the children of uneducated parents the percentage was 21.2. Similarly, the ratio of decayed teeth of children with educated parents is 27.5% whereas that of uneducated was calculated as 78.7%. Furthermore, the teeth loss proportion of children having uneducated parents is much higher than that of children of educated parents. While assessing the variable "Teeth filling", it was noticed that more children of educated parents due to their dental knowledge have filled their teeth whereas uneducated due to their limited knowledge have a minor proportion of teeth filling. Concerning cleaning methods, on the top level, toothpaste and toothbrush were the mostly used placebo by the children of educated parents. Miswak and finger were the second and third most used cleaning method by the children of educated parents. The common method adopted by most of the children of uneducated parents was finger having a percentage of 56.8. A considerable majority of children from uneducated parents used toothpaste/toothbrushes at a percentage of 24.8. The least commonly used method of children having uneducated parents was miswak having 18.3%. The consumption level of sweets by the children of both educated and uneducated parents was nearly the same, 94.6% and 94.1 respectively however the daily basis consumption of educated

was drastically smaller (19.3%) than the children of uneducated (74.5%). Having sufficient dental knowledge and dental care, children at large (72.2%) answered „no“ to the question of dental pain whereas 78.4% of the children from uneducated parents were the ones suffering from dental pain. In a nutshell, under all variables, the children of educated outperform the children of uneducated ones.

CONCLUSION

This study concludes that parental literacy determines and affects the dental hygiene and prevalence of dental caries in children. The children of educated parents have less al dental caries as compared to the children of uneducated parents. This is because educated people inculcated good dental habits and practices in their children thereby minimizing dental diseases in their children.

LIMITATION

In this study the parents were not involved during the data collection process and children were used to make inference.

CONFLICT OF INTEREST: None

FUNDING SOURCES: None

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CONTRIBUTORS

1. **Shafi Ullah** - Concept & Design; Data Acquisition; Data Analysis/Interpretation; Drafting Manuscript; Critical Revision; Supervision; Final Approval
2. **Muhammad Ahmad Orakzai** - Supervision; Final Approval

ANTIBIOGRAM ANALYSIS OF PATHOGENIC BACTERIA ISOLATED FROM HUMAN NAILS

Sidra Farooq¹, Aqdas Zoreen², Muhammad Saqib Ishaq³, Moin Ud Din⁴, Muhammad Sohail⁵, Amjad Khan⁶, Faheem Ullah⁷

ABSTRACT

OBJECTIVES

The objective of this study was to isolate bacteria from human nails of public of Peshawar and perform antibiogram analysis of isolated bacterial species.

METHODOLOGY

For this study, a total of 25 samples were collected from nails of students of Abasyn University, Peshawar. These samples were cultured on Nutrient agar, Eosin Methyl Blue dye agar and Mannitol Salt agar and were identified by Catalase, Oxidase, Triple Sugar Iron, Citrate, and Indole tests.

RESULTS

It was found that 60% of collected hand samples were contaminated with 47% Staphylococcus aureus (S. aureus) and 53% Escherichia coli (E. coli). Antibiogram analysis showed that the most potent antibiotic for E. coli and S. aureus was Ciprofloxacin (22mm and 26mm respectively) while less effective antibiotic was Cefixime having zone of inhibitions 13mm for E. coli and 10mm for S. aureus.

CONCLUSION

The results concluded that mostly the human nails are contaminated due to environmental factors and thus, require good hygienic practices to prevent different transmission of different infection.

KEYWORDS: Antibiogram, Cefixime, Ciprofloxacin, E. coli, S. aureus

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INTRODUCTION

Microorganisms are widely distributed all over the world be it air, water, soil and even human body. Human body is said to be the shelter of millions of bacteria, viruses, fungi and other many other invisible organisms.¹ The hand acts as a significant transmission platform for different microbes, including the enteric species². Hand washing has long been recognized as an important procedure in

preventing the transmission of disease.³ Contaminations of hands play a significant role in fecal-oral transmission of diseases. The unhygienic habits of most of the people result in the varied infections through hands and fingernails. Eighty percent of the diseases related to the poor domestic and private hygiene. One in every of the ways of healthy living is hand hygiene.⁴ The hands are the parts of the human body that are in most contact with the outside world. People use their hands for a variety of activities every day. It is extremely easy to encounter different microbes and to transfer them to other objects and maybe even people. Surprisingly, fingernails harbor the most bacteria found on the human hands.⁵ Healthcare worker's hands are the most common vehicle for the transmission of healthcare-associated pathogens from patient to patient and within the healthcare environment. Hand hygiene is the leading measure for preventing the spread of antimicrobial

resistance and reducing healthcare-associated infections (HCAIs), but healthcare worker compliance with optimal practices remains low in most settings. Available evidence highlights the fact that multimodal intervention strategies lead to improved hand hygiene and a reduction in HCAI.⁶ Microbes may still occur under fingernails when hands are washed. Higher microorganism populations (2 to 3 log CFU / fingernail) 10 happen commonly under the nails and are often harder to remove than at other hand places. Determination of prevalence of Enterobacteriaceae in the mouths of chronic nail-biters may be useful for clinicians. The predominant aerobic bacterial flora of the large intestines of man and animals is composed of non-sporing, non-acid-fast, Gram-Negative bacilli.⁷ Most infection control guidelines recommend that fingernails are kept short. This facilitates cleaning but it has also been shown that longer nails have increased numbers of microorganisms. Long nails are also more likely to tear gloves, thereby breaking the barrier.⁸ Bacteria found in nails are very much like those present on hands with the difference that there are fungi and bacilli also under the nails. Normal floras of the skin include *Pseudomonas aeruginosa*, *Staphylococcus aureus* and *Streptococcus mitis* etc. *Staphylococcus aureus* is a normal flora that is found under the clean fingernails. *P. aeruginosa* is associated with green nail syndrome, resulting in greenish discoloration of the nail plate. *Proteus* species cause Black

paronychia. *Staphylococci* and *Streptococci* may be found as secondary invaders of infection.⁹ There is now sufficient evidence to recommend that artificial nails constitute an infection risk in high-risk areas and should not be worn in clinical areas, though further investigations are necessary to better define the risks involved.¹⁰ The aim of the current study was to perform antibiogram analysis of bacterial species isolated from human nails.

METHODOLOGY

A total of 25 samples were collected from the students of Abasyn University, Peshawar. The samples were collected from human nails by using sterile swab sticks. The swab stick was moistened with normal saline and was rubbed over proximal, medial, and distal surface of nails. The samples were then brought to Microbiology Research Laboratory, Abasyn University, Peshawar for further processing. The collected samples were streaked on Nutrient agar, Eosin Methyl Blue dye agar and Mannitol Salt agar. The plates were incubated at 37°C for 24 hrs. The isolates were identified by using Standard Microbiological Procedures i.e., Colony characteristics, Gram staining, Colony counts and Biochemical tests (Catalase, Citrate, Indole, TSI, Oxidase). Agar well diffusion method was used for evaluating the antibiotic susceptibility of the isolated bacterial species.

RESULTS

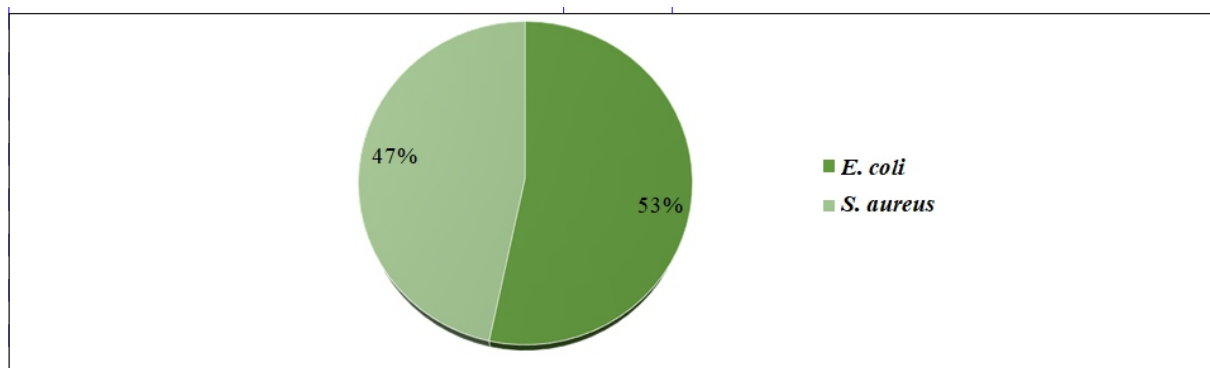


Figure 1: Prevalence of Bacteria from Positive Samples

Table 1: Structural and Morphological Characteristics

Isolates	Microbial Growth (Nutrient Agar)	Shape	Gram Staining
<i>E. coli</i>	Greyish white	Rod	- ive
<i>S. aureus</i>	Golden-yellow colonies	Spherical	+ ive

Table 2: Biochemical Test of Isolated Species

Identified Organism	Catalase	Oxidase	Urease	Coagulase	Indole	TSI	Gram Stainin	Butt Shape	Citrate
<i>E. coli</i>	+	-	-	-	+	Acidic g+ve	-	Yellow	-
<i>S. aureus</i>	+	-	+	+	-	-	+	-	+

Key; + = Positive, - = Negative, Yellow = Acid Production, Pink = Alkaline, G = Gas

Table 3: CLSI Standard Values of Showing Resistance, Susceptibility and Intermediate Value

Bacteria	Ciprofloxacin			Gentamycin			Amoxicillin			Amikaci			Cefixime		
	S	I	R	S	I	R	S	I	R	S	I	R	S	I	R
E. coli	>21	16-20	>15	>15	13-14	>12	>18	14-17	>13	>18	14-17	>13	>14	16-18	>15
S.aureus	>18	14-16	>12	>15	13-14	>12	>17	14-15	>13	>15	13-14	>12	>12	11-10	>10

*S = Standard, I = Intermediate, R = Resistant

Table 4: Antibigram Analysis of E. coli and S. aureus

Isolates	Ciprofloxacin	Gentamycin	Amoxicillin	Amikacin	Cefixime
E. coli	22 mm	16 mm	12mm	20mm	13mm
S. aureus	26 mm	15 mm	11mm	12mm	10mm

DISCUSSION

Human hands play major role in transmission of different microbes. Transmission of microbes leads to spread of different diseases. Human hands and fingers are re-contaminated with different types of microbes due to frequently in contact with outer world.¹¹ The bacterial contamination as well as the resistance developed by these bacterial species is very contagious.¹² In this study, A total of 25 samples were collected from hands of nails of students of Abasyn University, Peshawar. Out of 25 samples, 15 (60%) were positive and 10 (40%) were negative. The bacterial species isolated and identified were *Escherichia coli* and *Staphylococcus aureus* by using plate culture method and biochemical characteristics. These findings were supported by other studies as well.^{13,14,15} The isolated bacterial species were subjected to antibiogram analysis, a total of five antibiotics were used as shown in Table 3, according to CLSI guidelines. Table 4. shows the antibiogram analysis of isolated species against selected antibiotics. Different classes of antibiotics were used to determine the susceptibility profile of the isolated bacterial species. The results showed that Ciprofloxacin (22mm) and Amikacin (20mm) were most effective against *E. coli* followed by Gentamycin (16mm) whereas for Amoxicillin (11mm) and Cefixime (13mm) resistance was observed. Similarly for *S. aureus*, the most potent antibiotic was Ciprofloxacin (26mm) followed by Gentamycin (15mm) while for Amoxicillin (11mm), Amikacin (12mm) and Cefixime (10mm) resistance was observed. Quantitative differences in the composition and density of microflora in different areas of the hands of 26 adult volunteers was determined. In quantitative cultures from five subungual spaces in 26 subjects, coagulase-negative *Staphylococci* were the dominant organisms, with *Staphylococcus epidermidis*, *S. hemolytic* and *S. hominis* being the most frequently isolated species whereas in the current study two bacterial species were isolated and identified from the nails i.e., *E. coli* and *S.*

aureus.^{16,17,18} From the results of the current study, it is thus recommended that; For accurate analysis, the sample size should be increased so that more bacteria should be isolated and identified from nails. Furthermore, different, and diverse groups of antibiotics should be used for antibiogram analysis. It is also recommended that proper personnel hygiene should be followed, to prevent diseases.

CONCLUSION

From current study it is concluded that of out of 25 samples, 15 samples were contaminated with different type of bacteria including *E. coli* (53%) and *Staphylococcus aureus* (47%). Furthermore, antibiogram analysis showed that the most potent antibiotic for *E. coli* and *S. aureus* was Ciprofloxacin (22mm and 26mm) while resistance was observed against Cefixime i.e., *E. coli* (13mm) and *S. aureus* (10mm).

LIMITATIONS

Although a satisfactory response was achieved in the study convenience sampling potentially jeopardizes the generalizability of the findings. The open-ended questionnaire, on the other hand, can let patients explain more in detail their experiences. As a result, it is advised that open-ended questions be used in future research to assess patient responses.

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UTILIZATION OF DENTAL SERVICES BY THE FEMALE POPULATION IN RURAL AREAS; A CROSS-SECTIONAL STUDY

Taukeer Haya¹, Naila Qayyum², Tamanna Mustajab³

ABSTRACT

OBJECTIVES

This study aimed to gain an insight into all those factors that facilitate and prevent patients from seeking dental treatments on time.

METHODOLOGY

A structured closed-ended questionnaire was filled with detailed information obtained from 215 female patients who visited the dental out-patient department with different dental ailments and was analyzed using SPSS Version 22. Also, the post-stratification chi-square test was applied to check the significance of all the comparative statistics. P-value <0.05 or = to 0.05 was considered significant.

RESULTS

A total of 215 females of age ranged from 20 to 60 years, with the largest group of respondents aged between 20 to 25 years (42%), 40 and above (38%). The most common reasons for not seeking dental treatments were, fear of pain (51%), the disease was not severe (46.9%), Fear of infectious disease (37.8%), high dental costs (28.6%), non-availability of female dentists (26.5%), economic issues (21.4%), lengthy appointments (20.4%), cost of transportation (15.3%).

CONCLUSION

Our results concluded that only a small portion of females visited a dentist when the symptoms first appeared. There was a misconception that dental disease could be cured with over-the-counter medications also enough services, professional staff and a hygienic environment are not provided at the hospital and private treatments are charged more, which prevents them from visiting Dental health facilities. Hence dental awareness programs are required to be implemented and Government is required to fulfil these unmet basic facilities.

KEYWORDS: Dental Care, Awareness, Factors, Government, Rural

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INTRODUCTION

Our body system is directly connected to the external environment through the oral cavity; thus, it acts as a reservoir for different oral and systemic diseases.¹ Prevention of different oral diseases is possible only through healthy oral hygiene practices and seeking timely professional dental

care. Availing of timely dental services does not only depends on their availability but also on their proper utilization. Almost all over the world developed countries did overcome the gap between the availability and utilization of dental services, but unfortunately in developing countries, the gap still exists, and resultantly timely dental services are not provided, eventually resulting in severe dental diseases and tooth loss.² Dentistry and medical professionals should collaborate to increase patient access and coordination of services. Oral and dental health issues are a serious public health concern, particularly in developing nations, where the illness burden is higher than in

developed countries. Unfortunately, these concerns are usually ignored. As a result, both oral and overall health is compromised. It may be difficult for a patient to access health care because of their beliefs and other predictors such as the cost, location, waiting time, and the clinic's reputation; however, other factors such as the personality traits and skill sets of the dental staff may influence their decision to seek treatment from a particular clinic or hospitals.³ Various research has suggested that there are a variety of reasons why people may not seek dental care when they need it, such as previous dental experiences, which influence individual perceptions of dental treatments, particularly painful and intrusive ones during infancy.^{4,5} Long wait times are also a prominent reason why the majority of patients avoid dental treatments. Dentists' lack of empathetic conduct may have contributed to unfavorable reactions because they were perceived as impersonal, uncaring, indifferent, or cold.⁶ According to a survey done in the United States, the following reasons were given: "expense" (40.2 per cent), "lack of time" (14.1 per cent), and "no apparent purpose to go to the dentist" (32.7 per cent).⁷ Comparable research done in Australia found similar causes, such as a lack of time and money.⁸ Another study on Australian people found that they postponed dental procedures because the cost increased from 27.1 per cent in 1994 to 34.3 per cent in 2008.⁹ Twenty-six per cent of individuals indicated the sort of therapy they had previously chosen had been influenced by the cost.¹⁰ A survey reported the feel of the needle, and the sound of a drill, as the most frightening objects.^{11,12} Another study in developing nations, such as India, found that the most common reasons for skipping dental appointments were "lack of time," "dental disorders are not particularly serious," and "no need to attend the dentist until there is pain. A study in Pakistan reported the most common reasons are lack of time and financial concerns.¹³ A small number of studies have been conducted in government settings where the majority of services are provided free of charge or at a very low cost, but people are still denied timely dental treatment, such as a recent study conducted in Lahore where one of the options for dental care service provision is a tertiary care hospital where the majority of services are provided free of charge or at a nominal cost, but there are still barriers in seeking regular dental treatment. Furthermore, the bulk of my study variables and their impacts were based on research done on children in various nations, and there is still a discussion about the link between dental care

consumption and associated issues. As a result, more research into the elements involved is required.

METHODOLOGY

A cross-sectional study was conducted at an Out-Patient Department (OPD) of the dental department in city hospital Lakki Marwat through a non-probability convenient sampling technique. For Data collection, females were interviewed while visiting the OPD of Lakki City hospital through a convenient sampling method. A total of 215 questionnaires were completed. A structured closed-ended questionnaire was extracted from already published studies and includes a total of 17 questions. Everyone was asked a series of questions. Oral hygiene status was also monitored. Data analysis was done by using SPSS version 22. Results were summarized using descriptive statistics in the form of tables and charts. The major reasons for delayed visits were stratified for the most repeated factors by the patient. Post-stratification chi-square test was applied to see the significance of all comparative statistics. A P-value less than 0.05 (≤ 0.05) was taken as significant.

RESULTS

Among all females who visited a dental OPD total of 215 participated in a study, Age ranged from 20 to 60 years, with the largest group of respondents aged between 20 to 25 years (42%), 40 and above (38%). Most participants were illiterate (34.4%), with 21.4% having completed primary education and only 18% with high school education. Upon general observation 38.6% of females reported cosmetic dental problems, followed by females with dental pain i.e.32% and 29% with oral mucosal lesions, also when respondents were asked about their qualifications it was found that mostly illiterate females were diagnosed with these problems.

Table 1: General Observation and Demographics

General Observations	What is the patient's qualification?							Total
	Illiterate	Primary School	High School	Secondary School	College	Bachelor	Master & above	
Does the patient have any dental pain or sensitivity?	64 86.5%	31 68.9%	27 67.5%	10 76.9%	10 100.0%	13 81.3%	13 81.3%	168
Do patient gums bleed?	41 55.4%	19 42.2%	17 42.5%	7 53.8%	7 70.0%	3 18.8%	8 50.0%	102
Is she satisfied with here smile?	49 66.2%	37 82.2%	32 80.0%	11 84.6%	9 90.0%	15 93.8%	12 75.0%	165

Table 2: Factors Affecting Utilization of Dental Services.

		Does the patient have any television at home?	
		Yes (f%)	No (f%)
When was the last dental visit today?	Less than 6 months	21.2%	18.2%
	6-12 months	24.4%	9.1%
	More than 12 months	44.0%	59.1%
	Didn't visit a dentist before	10.4%	13.6%
Factors Affecting Utilization of Dental Services	The dental disease was not severe	43.7%	22.7%
	No availability of a dentist.	8.9%	4.5%
	Non-availability of a female dentist.	20.5%	18.2%
	Economic issue	13.7%	0.0%
	Inconvenience	13.7%	0.0%
	High dental cost	30.5%	0.0%
	Fear of pain	40.0%	13.6%
	No dentist nearby	12.6%	0.0%
	Fear of infectious disease	34.7%	18.2%
	No reliable dentist	15.8%	9.1%
	Difficulty of registration	2.1%	0.0%
	Lengthy appointments	18.9%	36.4%
	Cost of transportation	18.4%	0.0%
	Other reason	15.3%	18.2%

Table 3: Common Reasons for Delayed Last Dental Visit

Reasons For Delayed Dental Visits	Last Dental Visit From Today				Chi-Square Value	P-Value
	< 6 months	6-12 months	> 12 months	Didn't Visit a Dentist B		
Dental disease was not severe	25.7%	42.6%	46.9%	56.5%	11.930	0.008
unavailability of a female dentist.	20.0%	14.9%	26.5%	13.0%	04.863	0.182
Economic issue	2.9%	4.3%	21.4%	8.7%	15.367	0.002
High dental cost	45.7%	21.3%	28.6%	17.4%	03.954	0.267
Fear of pain	17.1%	44.7%	51.0%	8.7%	27.777	0.001
Fear of infectious disease	20.0%	40.4%	37.8%	30.4%	08.040	0.040
Lengthy appointments	37.1%	19.1%	20.4%	8.7%	4.052	0.256
Cost of transportation	48.6%	4.3%	15.3%	4.3%	23.080	0.001

DISCUSSION

This study was carried out to find out the reasons that prevent the general population from timely utilization of dental care services. The focus of this research was the government. Sector hospital where despite the nominal cost, the timely patient presentation was low and factors that did effects patients visits to a different dental health facility. Hence there was an extreme need to explore the reasons behind such a large proportion of people presenting late. The study population consists of females belonging to different socioeconomic statuses but most of them were illiterate and some

have very limited education like studies conducted in Nigeria and India.^{13,14} Most of the females had made their previous dental visits delayed ultimately, they do report to the OPD with serious dental issues like extreme pain, swelling, severe dental caries, extreme dental plaque, and other esthetic problems. The most reported reasons recorded for delayed dental visits were, Dental disease was not severe which was consistent with findings in a study conducted in India and China.^{15,16} Non-availability of a female dentist just like findings published in the primary dental journal.¹⁷ Economic issues, High dental costs, and Lengthy appointments were also contributing

factors similar to findings published in Victoria, Saudi Arabia, and Lahore.^{2,12,18,19} Fear of pain, fear of infectious disease and Cost of transportation are inconsistent.^{20,21,22} Our study also concluded that mostly uneducated and less educated females were found with more severe dental issues and more delayed dental visits which is, in contrast, to a study conducted in Saudi Arabia where Less educated patients as compared to those with bachelor's and masters were more regular and satisfied with their routine dental appointments.²³ This demonstrates that all these issues are common in developing countries, especially in rural areas. Non-serious behavior toward the dental problem is because people do avoid professional dental treatment even when symptoms emerge, preferring instead to seek advice from family, friends, local pharmacies, and quacks. The issue arises from the widespread availability of over-the-counter drugs, which are frequently abused and are common in all developing countries, like Pakistan where low literacy rate and lack of dental education do play a major role, where people do not believe it is necessary to see a dentist when a problem first appeared.²⁴ However, studies undertaken in developed countries opposed our findings.^{25,26,27} This can be attributed to the fact that they have suitable protocols in place to prevent the nonprescribed use of medications. They do have a high literacy rate and a thorough knowledge of the importance of dental health maintenance. Treatment costs have also been mentioned as a key cause of people not getting dental treatment on time. in other studies.¹⁴ This, however, contradicts our findings because our study was conducted in a government setting where the cost of dental treatment is very low or even free but even though most of the patients did mention the cost of delaying their previous dental visits because according to them privates dental treatments costs high and government hospitals in Lakki Marwat do provide patients with very limited treatment facilities and most commonly provided one is tooth extraction. Also, the environment is extremely unhygienic, there is no system for autoclaving and other facilities for an aseptic environment to prevent patients from nosocomial infections. Also, patients do complain about spreading COVID nowadays, as there were no precautionary measures to provide prevention against such infections. Females reported more conveyance and home concerns, which is consistent with research undertaken in India.²¹ Most of the respondents did complain about the unavailability of the nearby dentist, and they do have to travel. Also, some

families do not allow their females to be treated by a male dentist and there is no female doctor available in Lakki city hospital. Females are more afraid of dentists as compared to males according to research done in Karachi, Pakistan. Also, females are found to be more expressive and could not suppress their feelings and fear, which is consistent with our findings as a high proportion of females did avoid timely dental visits as they do have a fear of pain.²⁸ This research gives us valuable information that can be used by public health officials and health care providers to improve accessibility, availability, acceptability and awareness of oral health care amongst females belonging to rural areas of Pakistan.

CONCLUSION

More than half of the study group did attend the dentist late (more than 12 months) when the symptoms initially appeared, resulting in irreversible tooth damage that results in tooth extraction. The biggest predictors of nonattendance behavior were fear of pain, the disease was not severe, Fear of infectious disease, high dental costs, non-availability of a female dentist, economic issues, lengthy appointments, and cost of transportation

LIMITATIONS

Although a satisfactory response was achieved in the study convenience sampling potentially jeopardizes the generalizability of the findings. The open-ended questionnaire, on the other hand, can let patients explain more in detail their experiences. As a result, it is advised that open-ended questions be used in future research to assess patient responses.

CONFLICT OF INTEREST: None

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CONTRIBUTORS

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FREQUENCY OF GOITER IN HOSPITALIZED PATIENTS OF DISTRICT HEADQUARTERS HOSPITAL, TIMERGARA

Fazal Haq¹, Syed Ishtiaq Ahmad², Zeeshan Ahmad³

ABSTRACT

OBJECTIVES

The aim of this study was to determine the frequency of goiter among the population of Timergara, Lower Dir.

METHODOLOGY

A retrospective study was carried out at the district headquarters hospital Timergara hospital of district lower dir. The study duration was one year from January 2018 to December 2018. The data were collected from 205 patients in the district headquarters hospital Timergara district lower dir. the clinical data of patients were collected through proforma. It was approved by the research committee of the Department of the surgical, institute of paramedical sciences, Khyber medical university Peshawar Duranpur Khyber Pakhtunkhwa, Pakistan. Percentage and frequencies have been used to determine the frequency of goiter at district lower dir. SPSS version 22 was used for data analysis.

RESULTS

This study shows that goiter is most frequently occurring in females as compared to males. out of 205 patients with goiter 58 patients were male and 147 were female. Female frequency was higher than male. Secondly, it was observed that goiter is more frequent in people aged 35 -44. i.e., out of 205 patients, 37.1% were in this age group. patients having goiter were mostly from hilly areas (61.5%). It was also observed in this study large number of patients were having visible goiter of grade two.

CONCLUSION

It was concluded that goiter most of the females and older population are suffering from the goiter.

KEYWORDS: TSH, Hormone, Triiodothyronine, Tetra iodothyronine, Goiter

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INTRODUCTION

Goiter is mainly caused by iodine deficiency as seen in more than ninety-four and a half per cent of cases worldwide. The protuberance in the neck area resulting from the abnormal expansion of the thyroid gland is called goiter. The two conditions which can lead to goiter development are hypo and hyper thyroids.¹ Goiter can be detected if it increases three times its normal size. According to the world health organization report, 7% of the total population of the world are suffer from visible

goiter.² The thyroid gland enlargement is the most common problem in northern areas of kapok such as chital, Swat and Dir. It is mostly caused by the deficiency of iodine. Goiter can also be caused due to inflammation, drugs, exposure to radiation and genetics.³ In 1998 the UNICEF report shows that about 70 per cent of the total population in Pakistan has the disorder of the deficiency of iodine.⁴ The resulting decrease of iodine from the normal level causes a disorder known as goiter.⁵ In the northern hilly areas of Pakistan, the poor socio-economic status, unavailability of the proper health care facility and lack of public awareness increase the risk of further enlargement of goiter. The result is chronic large goiter for a long period, therefore, making the surgical procedure further complex.⁶ In chronic and large-size goiter the conformation of cancerous cells is important by histopathological

examination.⁷ Most studies have demonstrated a high thyroid size increase in men as compared to women this is due to its correlation with the slant body weight. The palpable goiter frequency ratio is lower in men than women. In women's thyroid, nodules are more prevalent. Although in males the thyroid size is bigger. Thyroid enlargement is two to ten times more frequent in females. Up to forty years of age the thyroid volume increase but from then onward it is followed by a slope in thyroid volume with normal availability of iodine. Those areas which have severe deficiency of iodine have a peak prevalence of goiter in the early life while in other regions with mild deficiency of iodine the goiter prevalence peak appears in adulthood or at a later age.⁸ The disorders of the thyroid gland are common clinical issues related to ageing. A study reported an increase in thyroid gland weight and size with an increase in age. Further assessment of enlarged thyroid gland by the autopsy and ultrasound study has shown that increased age is accompanied by a high incidence of goiter more specifically in places deficient in iodine.⁹ A demonstrated that the rate of occurrence of goiter in the old age people has reached 74.2% inpatient aged 55 or more and 55% in patients aged 75 or more.¹⁰ The study was conducted in Bahawalpur Pakistan, which shows that the frequency of goiter in females was 87.5% and 12.5% were in males out of 80 patients. The frequency of goiter was higher i.e., 50% in patients having age group ranging from 18-28, while the frequency of goiter in the age group 28-38 was 31.25% and the lowest frequency of goiter i.e., 18.75% were found at age group ranging from 38-50. this study also shows that the frequency of goiter was more common in females than males.¹¹ The frequency of goiter in regions of severely iodine-deficient areas can be extremely large and reach up to 80%. Many regions of the world which are deficient in iodine affect nearly 2 million people worldwide.¹² Therefore, this study was designed to figure out the prevalence of goiter in Timergara, Lower Dir (Pakistan).

METHODOLOGY

This was a descriptive cross-sectional retrospective study. The duration of the study was one year from January 2018 to December 2018; all those patients of goiter were selected for the study who attended hospital in this mentioned period. The sample size was calculated according to the WHO calculator which comes out to be 205. As this was a retrospective study so samples were collected purposively from the available record of patients

through proforma. clinical data were collected from hospitalized patients from District Headquarter Hospital (DHQ) Timergara and other health care facilities in lower dir. the study was approved by the research committee of the Department of the surgical, institute of paramedical sciences, Khyber medical university Peshawar Duranpur Khyber Pakhtunkhwa, Pakistan. Percentage and frequencies have been used to determine the frequency of goiter at district lower dir. Statistical package for social sciences (SPSS) version 22 was used for data analysis.

RESULTS

Table 1: Demographic-wise Presence of the Goiter

		Frequency (f)	%Age
Gender	Male	58	28.3%
	Female	147	71.7%
Age	14-24	21	10.2%
	25-34	66	32.2%
	35-44	76	37.1%
	45-70	42	20.5%
Residences	Palne	79	38.5%
	Hilly	126	61.5%

DISCUSSION

This study was conducted at lower Dir (Timergara) to find out the frequency of goiter patients. It was observed that females were more diagnosed with goiter disorder. A study reported that in northern regions 20.4% of the male and 28.1% of the female were diagnosed with goiter as compared to the population of southern regions.¹³ A study conducted in India showed that goiter was slightly high in males (07.82%), whereas a study performed in Kashmir valley indicated that the prevalence of goiter in females (16.12%) was higher than the male (10.10%) respectively.^{14,15} In the district Sukkur (Sindh), the prevalence of goiter patients based on age and sex shows that goiter patients gender-wise were 94.6% female and 5.26%, male. According to age-wise distribution, 31-50 years had a high prevalence of goiter which was 70% (40 out of 57) and lowest in the age group 51-75% which was 7% (4 out of 57%).¹⁶ one of the studies showed that female (3x) had more iodine deficiency than males.¹⁷ Our study results are in accordance with the above-published literature. The goiter developed due to the iodine deficiency. There should be some programs on the implementation level to improve and manage the iodine consumption in such regions or targeted populations. In Ethiopia, the obligatory universal iodization of salt was being executed by

the Ethiopian Demographic and Health Survey of 2016, around 89 percent of the families were using iodized salt.¹⁸

CONCLUSION

It was concluded that goiter occurs more frequently in females, older and those living in hilly regions.

LIMITATIONS

In this study, medical and other conditions contributing to the development of the goiter were not assessed.

CONFLICT OF INTEREST: None

FUNDING SOURCES: None

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PREVALENCE OF GESTATIONAL OVARIAN CYSTS DETECTED BY ULTRASOUND

Fazal Haq¹, Syed Ishtiaq Ahmad², Zeeshan Ahmad³

ABSTRACT

OBJECTIVES

To determine the prevalence of gestational ovarian cyst form in the early pregnancy or during first trimester that may contribute to the formation of ovarian cyst in pregnancy.

METHODOLOGY

Data collected through patient's demographic history and questionnaire. For each case the patient's ultrasound images were evaluated to determine the type of cyst, ultrasound appearance, with their rates and location.

RESULTS

Out of 111 patients were included in the study, the total incidence of ovarian cyst (Corpus luteum) in pregnancy were 1.8%. The ovarian cyst through analysis was found in patients whose gestational age was in the range of first trimester to second trimester. Other 109 (98.1%) Patients with family history of ovarian cyst, Diabetes, Induction therapy and Obesity found no cystic lesion. Patients included in this study were between the age of 18-48 Years

CONCLUSION

The outcome of this study has shown that prevalence of ovarian cyst in pregnancy is very less because ovarian cyst that form in the first trimester usually resolve itself without given any medication or resection treatment. Obstetric ultrasound has been found to be accurate in figuring out simple, solid, and complex type of cyst in pregnancy.

KEYWORDS: Pregnancy, Ovarian cyst, Obstetrics, Ultrasound, Carcinoma

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INTRODUCTION

An ovarian growth is a sac loaded up with fluid (kindhearted) or semi fluid (complex) material that structure in an ovary. A large portion of these sores are considerate in nature and asymptomatic. Ovarian sores are the most well-known dermoid tumor, with a pervasiveness surpassing 30%. On the off chance that ovarian pimple left untreated it goes to ovarian carcinoma. The predominance of ovarian carcinoma is roughly 15 cases in 100,000 females in a year. In United State, ovarian carcinomas are clinically analyzed more than 21,000 females every

year, incurring an expected 14,600 deaths.¹ The general foreseen occurrence of adnexal masses in pregnancy ranges from 2% to 10%.² The detailed adnexal masses in pregnancy ranges from 1 of every 81 to 1 of every 8000 pregnancies.³ Incidence of sonographic perceivable adnexal masses with most of masses settling precipitously in the term of pregnancy gauge a 1% - 4%.^{4,5} If the lady is evaluated by bimanual assessment, an adnexal mass can be distinguished if it's miles in any event 5 cm in diameter.⁶ Sometimes we discover ovarian blisters which may be enormous than 5cm, and which continue past 12 weeks. The event of muddled or basic nonstop sores estimating more prominent than 6 cm is just 0. 07%. A corpus luteum enduring into the subsequent trimester represents 13-17% of all cystic adnexal masses.⁷ As per the ACOG core value, pelvic ultrasonography,

is viewed as the methodology of decision for assessing adnexal sores analyzed in pregnancy and is fitting for controlling careful mediation whenever demonstrated.⁸ Ultrasonography is additionally basic in following adnexal masses to decide their turn of events or relapse in size and character. Additionally, Doppler ultrasound likewise can be utilized for what's more describing the injury with respect to the blood flow.^{9,10} USS has been resolved to be precise in making sense of the dangerous ability of an adnexal mass; the more perplexing a tumor (I. e. The more septa and strong particles it conveys), the higher the odds of malignancy.^{11,12} Cysts containing coagulated blood (hemorrhagic growths) can likewise found in pregnancy. Follicular sores are the most widely recognized utilitarian growths, which structure underneath the effect of hormonal changes in pregnancy. They speak to a follicle that didn't ovulate and relapse spontaneously.¹³ Ovarian pimples enormous than 4 cm in distance across had been appeared to have a twist pace of around 15%. Harm might be found in up to 2% of instances of ovarian twist. The most ordinarily ovarian mass related with twist is a dermoid growth. In ovarian growth burst and discharge, ultrasonography can likewise show free liquid inside the pocket of douglas in 40% of cases.¹⁴ Management in pregnancy relies upon on the size of the adnexal mass, its sonographic appearance and any associated clinical signs and symptoms, although most of the patients are probably to be asymptomatic. Simple cysts which are much less than 5 cm in diameter do no longer need in addition assessment and rescanning is handiest required if there is a clinical indication that is pelvic pain. Most simple cysts clear up spontaneously at any stage during the pregnancy. Cysts that have a complex nature, i.e., Solid, and cystic materials, need further investigation irrespective of size.^{14,15}

METHODOLOGY

The Cross-sectional Descriptive Study was conducted at tertiary care hospital Northwest General Hospital (NWGH) in Peshawar from May-August 2020. 111 total female married patients based on 5% significance level and 95% confidence interval through convenient sampling technique were selected. Calculated it on a Raosoft Calculator. All married Female pregnant patients, who Were symptomatic and asymptomatic of ovarian cyst coming for Obstetric ultrasound will be included. Those patients who already performed bilateral oophorectomy, surgical interventional procedure in the pelvic region and traumatic patients will be

excluded. Obstetric ultrasound was taken in the procedure in pregnant patients for the evaluation of gestational ovarian cyst. Those patients who already performed bilateral oophorectomy, surgical interventional procedure in pelvic region, traumatic patients and non-pregnant patients were excluded. Data collected through patient's demographic history and questionnaire. For each case the patient's age, type of cyst, ultrasound appearance, with their rates are inside and out detailed. After approval of the synopsis from Northwest Institute of health Sciences Peshawar, a formal approval was taken from in-charge of the concern department of selected tertiary care hospital (NWGH). Staff from radiology department were then approached by research team members and requested for participations in the study. Study's aim and objectives were explained to each participant before taken the consents. Data were recorded on a structured Performa/Questionnaire. Patients presenting for obstetric ultrasound, Assessment of pregnancy, Assessment of Biophysical profile; ultrasonic images were evaluated for the determination of ovarian cyst in pregnant patients. Statistical Package for Social Sciences (SPSS) version 22 is used.

RESULTS

Out of 111 patients' total incidences of ovarian cyst (Follicular Corpus luteum) in pregnancy were 02 cases. The ovarian cyst in pregnant women was 1.8%. The prevalence of ovarian cyst through analysis was found in patients whose gestational age was in the range of first trimester to second-trimester. Other 109 cases found no ovarian cyst during examination. Percentage distribution of ovarian cyst in pregnant patients the total patients is 1.8% & 98.2% of patients found no ovarian cyst as shown in figure 1. The Gestational age group distribution of follicular corpus luteum cyst in 1.8% patients is clarified as in between 4 weeks to 20 weeks (first trimester to second trimester), having abdominal pain and swelling without any Induction therapy, family history of ovarian cyst and lies in the weight group of 65 to 85 kg. Obstetric ultrasound has been found to be accurate in figuring out simple, solid, and complex type of cyst in pregnancy. Simple ovarian cysts (Follicular, corpus Luteal) appear on ultrasound as Unilocular, thin-walled, anechoic lesion with the resolution rate of 90–100 if <5 cm in diameter.

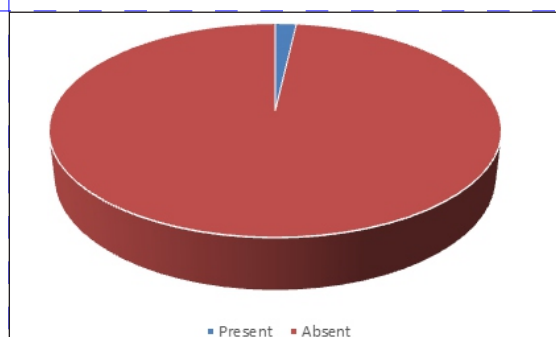


Figure 1: Shows the Prevalence of Ovarian Cyst

Table 1: It Represents the Clinical Representation of the Patients.

Clinical Presentations	Frequency	%Age
Diabetic Patients	01	0.9%
Obese Patients	01	0.9%
Induction Therapy Patients	14	2.6%
Family History of Ovarian Cyst	06	5.4%
Abdominal Swelling Patients	08	7.2%
Abdominal Pain Patients	48	43.2%
Total	78	70.00%

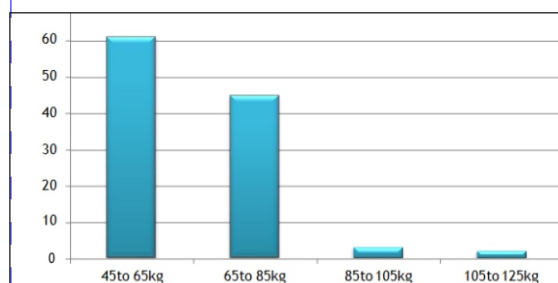


Figure 2: Shows the Weight of the Patients

DISCUSSION

The routine obstetric ultrasound assessment adnexal masses were analyzed more much of the time than previously. The occurrence of adnexal masses during pregnancy was evaluated to be 0.2-2% relying upon the phase of pregnancy. With a 1-6% danger rate, by far most of these masses are kind.¹⁷ In an investigation, in the Department of Obstetrics and Gynecology, King Abdulaziz University Hospital, Jeddah, Saudi Arabia.¹⁸ There were 244 ovarian cysts during the investigation time frame. The age ran from 3 months to 77 years old. The equality from 0-6. The tallness goes from 37-180 cm. The weight territory from 3-161 kg and determined weight record went from 12-47. Out of 244 patients analyzed, 165 were hitched (67.4%).

of those, solitary 16 patients were pregnant (6.6%). The most widely recognized introduction was stomach torment in 142 patients (58.2%). Just 79.9% were ovarian cysts, and 17.5% were either para-ovarian or retroperitoneal. The correct ovaries were influenced in 63.1%, and just 18.9% were respective. The kinds of ovarian growths included utilitarian cysts 33.2%, favorable sore adenoma 19.3%, and dermoid blisters 12.3%. The general foreseen rate of adnexal masses in pregnancy ranges from 2% to 10%. In our study, the ovarian cyst in pregnant women was 1.8%. The prevalence of ovarian cyst through analysis was found in patients whose gestational age was in the range of first trimester to second- trimester. Other 109 cases found no ovarian cyst during examination. These were supported by another study which showed that incidence of adnexal masses during pregnancy is estimated to be 0.2-2% depending on the stage of pregnancy.¹⁹

CONCLUSION

It is concluded that in pregnancy ovarian cyst mostly found in first to second trimester because it is usually resolve itself without any treatment or resection. Obstetric ultrasound has been found to be accurate in figuring out cyst in pregnancy.

LIMITATIONS

Ultrasound machine can detect cystic lesion but only simple, solid, and complex type due to their appearance on ultrasound. If somebody's found complex type of cystic lesion during ultrasound examination, she further needs evaluation to determine the nature of the cyst. By using Biopsy procedure one's can detect the nature of the cyst (Endometrioma, Teratoma, Leomyoma).

CONFLICT OF INTEREST: None

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AESTHETIC REHABILITATION OF A PATIENT WITH DENTAL FLUOROSIS USING COMPOSITE VENEERS: A CASE REPORT

Fazal Haq¹, Syed Ishtiaq Ahmad², Zeeshan Ahmad³

ABSTRACT

When it comes to dental fluorosis, the severity of the condition determines which treatment method is the best. Considering the good aesthetics, wear resistance, biocompatibility, and ease of manipulation of direct composite veneers, they are considered the treatment for mild to moderate cases of fluorosis. In this case study, a 20-year-old female underwent a step-by-step rehabilitation of fluorosis teeth with resin composite as direct veneers. The patient presented in the department of operative and restorative dentistry at the College of Dentistry, Sharif medical and dental college with tooth discoloration.

KEYWORDS: Composite Veneers, Aesthetic Rehabilitation, Dental Fluorosis

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INTRODUCTION

Fluoride is an essential mineral for children of all ages. Bacteria in our mouth interact with sugars in the foods we eat and the beverages we consume. The acid produced destroys tooth enamel and causes tooth decay. Fluoride is a mineral that protects teeth and can help cure early signs of decay. However, today's vastly increased accessibility of fluoride has led to an increase in a condition known as dental fluorosis¹. Dental fluorosis is a developmental disorder of the tooth enamel that occurs due to excessive exposure to high-fluoride during tooth development, resulting in enamel with a decreased mineral content and high porosity. Fluoride is a very significant component in controlling and preventing dental caries. It can be found in fluoridated community water sources and fluoridated oral care products. There has been an upsurge in the incidence of fluorosis as the prevalence and severity of dental caries has decreased². The morphology of fluorosed teeth ranges from white ridges to discolored and stained pitting of the enamel. Dental fluorosis is caused by a long-term consumption of fluoride during the developmental ages when the enamel of permanent teeth is being developed, even before they erupt in the oral-cavity³.

CASE REPORT

A 20-year-old female presented to the department of operative dentistry of College of Dentistry, Sharif medical and dental college Lahore with complaint of an unattractive smile due to widespread tooth discoloration. The patient was in an otherwise healthy state and she wanted the removal of stains from anterior teeth. Clinical examination revealed mild fluorosis with loss of the outermost enamel in irregular patches covering less than half of the whole surface, as well as morphological alterations and significant attrition. Patient also had class III cavities on mesial aspect of maxillary central and lateral incisors. On percussion there was no pain or tenderness. The patient was diagnosed as a case of mild fluorosis according to Dean's fluorosis index as shown in figure 1.





Figure 1: Pre-operative Intra-oral Picture of the Patient Showing Fluorosis.

A rubber dam was used to isolate the teeth with floss ligatures to achieve the cervical seal, which is especially important in this type of restoration. The shade selection for direct composite veneer was done and A2 shade was selected. A diamond taper fissure bur was used to remove a thin layer (about 0.5mm) of discolored enamel. A selective etching process was applied (only enamel etch for 30 seconds, followed by 60 seconds of water rinse). After applying multiple coats of bonding agent, the solvent was evaporated by blowing air through an oil-free syringe for 20 seconds and light cured for 30 seconds. The composite was applied on the teeth in layers and cured for 30 seconds. The fine needle with yellow band bur was used to finish the line angles and labial contour.



Figure 2: Post-Operative Intra-Oral Picture of the Patient

DISCUSSION

Following the development of new materials and techniques in adhesive and restorative dentistry, direct composite veneers have taken on a significant role in dental treatment. The fundamental process, as well as the advantage of these restorations, is their direct application on prepared tooth surfaces, or without any kind of preparation, with a bonding agent and a composite resin material in a single visit⁴. The objective of treatment in this scenario was to restore the patient's aesthetics. Direct composite veneers were used to achieve this purpose, which are a good treatment option for masking tooth discoloration in cases of mild

fluorosis⁵. Direct composite veneers can completely camouflage the discolored tooth with minimal loss of sound tooth structure as they require a minimum invasive design preparation. Furthermore, advancements in resin materials have aided this procedure. Direct composite veneers offer reliable and long-term aesthetic improvement. Although direct composite restorations have good aesthetic they have lesser durability and wear resistance than indirect porcelain veneers⁶. The bonding technique to the fluorosed enamel and dentin can also be difficult. In mild or severe situations, however, adequate bonding strength to fluorosed enamel has been documented⁷. Grinding the fluorosed tooth enamel to reduce the hypermineralized layer is recommended. In typical enamel, 15 seconds of phosphoric acid etching has been reported as yielding the greatest results. While the optimum etching results for moderately fluorosed enamel are acquired at 30 seconds, greater etching time for severe fluorosis results in a slightly retentive surface⁸. Fluorosis has a detrimental effect on the bond quality of all adhesive systems to enamel. The highest bonding strength to fluorosed enamel is achieved using etch-and-rinse systems. The success of aesthetic rehabilitation depends upon the choice of material and skill of dentist.

CONCLUSION

Direct Composite veneers may be a great choice for people who desire an esthetic rehabilitation, especially if they need it immediately. The direct veneering process allows the dentist to create and produce a beautiful, natural-looking smile in only one visit, with minimal invasion. It is also a cost-effective treatment for the patient

CONFLICT OF INTEREST: None

FUNDING SOURCES: None

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